Mass (FFM) and Fat Mass (FM) were estimated by Dual-energy X- ray absorptiometry. At the same time, Extra Cellular Water (ECW) was measured by bio impedance spectroscopy. Cellular Active Mass (CAM) was defined as FFM – ECW. Energy and protein intake (EI –PI), physical activity (PA), biochemical and nutritional parameters were also recorded. Patients were evaluated every 6 months before KT, and 15 days, 1, 3, 6, 12 and 24 months after KT. During the first 2 years post KT, FM increase 0.09 kg/month ($p=0.007$), FFM by 0.06kg/month ($p=0.0556$) and MCA by 0.04kg/month ($p=0.04$). Univariate analysis showed that during the first 30 days post KT, FFM is strongly influenced by male gender, higher BMI, higher PIbefore KT, higher PA before KT and lower CRP post KT. During the first 2 years, FFM evolution is associated with male gender, higher EI and PI post KT. Early post KT evolution of FM is related to high BMI and high cumulative dose of corticosteroids. Long term evolution is associated with EI and use of corticosteroids. Pre KT EI and PI, as well as male gender and BMI influenced significantly the early evolution of MCA. In adjusted analyses, BMI and gender remained independently associated with FM, FFM and CAM. Furthermore, higher FFM level was associated with higher EI.

We confirm that successful KT is associated with BC modifications; which can be detected very early post KT. These very early changes are strongly associated with energy, protein intake and physical activity level pre KT. Management of post KT weight gain should be anticipated with a special care on nutritional intake and physical activity in patients waiting kidney transplantation.

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RELEVANCE OF BIO IMPEDANCE SPECTROSCOPY FOR THE ESTIMATION OF BODY COMPOSITION IN DIALYSED AND KIDNEY TRANSPLANTED PATIENTS

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Bio impedance spectroscopy (BIS) is widely used in pathological situations to measure body composition. However, the results of BIS validation with reference methods are still contradictory, especially in medical situations where hydratation status is compromised. The aim of this study was to evaluate the accuracy of BIS to estimate fat free mass (FFM) and fat mass (FM) in dialysed patients using dual-energy X-ray absorptiometry (DXA) as a reference compared to the results obtained in the same patients two years after successful kidney transplantation.

When listed for a kidney grafting, 39 patients who consent were included in a longitudinal study of evaluation of body composition (CORPOS). FFM and FM were estimated by DXA and by BIS (Imp SFB7 Impedimed Pty Ltd. Queensland, Australia), both performed successively the same day. These measurements were repeated in the same patients 24 months after renal transplantation.

DXA and BIS measures of FFM and FM were highly correlated in dialyzed patients (DP) (respectively $r=0.909$ $p<0.001$ and $r=0.831$ $p<0.001$) and kidney transplant recipients (KTR) (respectively $r=0.934$ $p<0.001$ and $r=0.770$ $p<0.001$). The mean difference between DXA and BIS (Bland-Altman analysis) for FFM estimation was smaller in KTR (-0.3 +/- 4.9 vs 3.2 +/- 4.5 in DP), whereas difference did not reach significance for FM. Differences between upper and lower limits are important in all groups: -5 to 15.5 kg for FFM in DP; -10.2 to 8.8 kg for FFM in KTR; -11.6 to 6.8 kg for FM in DP and -9 to 14.9 kg for FM in KTR. Despite this individual variability, the whole body composition evolution after kidney transplantation is approached the same way by both methods.

DXA and BIS measurements were highly correlated in both DP and KTR. However, the large individual differences demonstrated that single values of FFM or FM may be interpreted carefully but BIS as DXA has ability to evaluate changes in body composition over time in longitudinal studies.

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NUTRITIONAL STATUS AND BODY COMPOSITION IN PERITONEAL DIALYSIS PATIENTS: RELEVANCE OF BIOIMPEDANCEMETRY (BCM®) FOR LONGITUDINAL MONITORING

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The protein-energy wasting is common in patients with renal failure including patients on peritoneal dialysis (PD) and is closely linked to an increased risk of morbi- mortality. The purpose of this study was to evaluate the relevance of bioimpedance spectroscopy (BIS) to assess longitudinal body composition (BC) modifications in incident and prevalent peritoneal dialyzed patients.

49 patients (16 women - 33 men) between January and December 2010 were included in this longitudinal, prospective, multicentric study. 18 of them (all men) were prevalent patients. Clinical (height, weight), biological (albumin, prealbumin, nPCR) and BIS (BCM®, Fresenius Medical Care) were collected at baseline, and months 3, 6 and 9. BC parameters are expressed as lean tissue index (LTI kg/m^2 for fat free mass/ height squared) and fat tissue index index (FTI kg/m^2 for fat mass/ height squared). Comparisons of data over time were conducted in pairs between 0 and 9 months.

At baseline, albumin (34.1 ± 6.1 g/L), prealbumin (0.39 ± 0.12 g/L) and nPCR (0.90 ± 0.24 g/24h) met the nutritional recommendations for PD patients. Mean weight was 71.7 ± 15.0 Kg. Mean LTI was 12.6 ± 3.4 kg/m^2 and FTI was 12.3 ± 6.1 kg/m^2. 37% of our population had an LTI below the 10th percentile and 16% have an FTI above the 90th percentile. After 9 months, mean weight remained stable for the whole population. At month 9, no change in the biological parameters was detected. LTI decreased significantly for all patients (-0.668 ± 0.2 kg/m^2), with a concomitant increase of FTI (1.05 ± 0.27 kg/m^2). These changes were greater in patients over 65 years, and faster in incident dialyzed patients. These changes were not influenced by residual renal function nor by the glucose exposition.

We confirm that PD is associated with changes in BC, whether for incident or prevalent patients. The BCM®, a simple, reproducible and inexpensive technique, could be proposed in the systematic nutritional monitoring of PD patients, in order to detect early modification of nutritional status in those patients and then to adapt clinical management.

	Mean ± SD at the end of study			p
	C (n = 27)	D (n = 28)	DE (n = 26)	
SBP, mmHg	138.94 ± 19.41	132.21 ± 19.04	125.19 ± 12.5	0.019*
DBP, mmHg	75.14 ± 9.06	66.5 ± 8.55	70.31 ± 11.94	0.010*
BUN, mg/dL	26.6 ± 0.28	28.5 ± 14.34	25.7 ± 16.04	0.791
SCr, mg/dL	1.95 ± 0.21	2.07 ± 0.85	2.07 ± 1.08	0.986
Salb, g/dL	4.15 ± 0.21	4.31 ± 0.44	4.4 ± 0.32	0.541
nPNA,g/kg/d	0.94 ± 0.33	0.74 ± 0.28	0.75 ± 0.19	0.020*
UrineNa, mg/d	3298.41 ± 1578.6	2489.47 ± 1364.05	2873.39 ± 1008.19	0.09

* $p<0.05$ vs. group C, Scr: serum creatinine, Salb: serum albumin, UrinNa: urine sodium

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THE STUDY OF EFFECT OF KETOANALOGUES IN DELAYING PROGRESSION OF CHRONIC KIDNEY DISEASE IN PATIENTS WITH DIABETIC NEPHROPATHY

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It has been proposed that protein-restricted diets may slow down the rate of progression and change the prognosis of patients with progressive CKD. The present study was conducted to assess the clinical efficacy and safety of low protein diet (LPD) supplemented with ketoanalogues (KA) in the treatment of diabetic nephropathy (DN) in comparison with LPD alone. Forty eight Diabetic Nephropathy patients at B.A.R.C. hospital, Mumbai were selected for participation in the study and were randomized to receive either LPD (0.6 g/kg BW/day) + ketoanalogues or the control treatment of LPD (0.6 g/kg BW/day). Both the groups received the treatment for mean duration of 31 months and followed up for 5 years. Renal functions, nutritional and metabolic status were assessed and compared at periodic intervals and at the end of 5 years follow up. The baseline characteristics, disease severity, renal dysfunction, metabolic derangements and demographic parameters were matched in both the